(No Model.)

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SEPARATOR FOR SPINNING MACHINERY.

No. 539,148. Patented May 14, 1895.

Fig. 1.

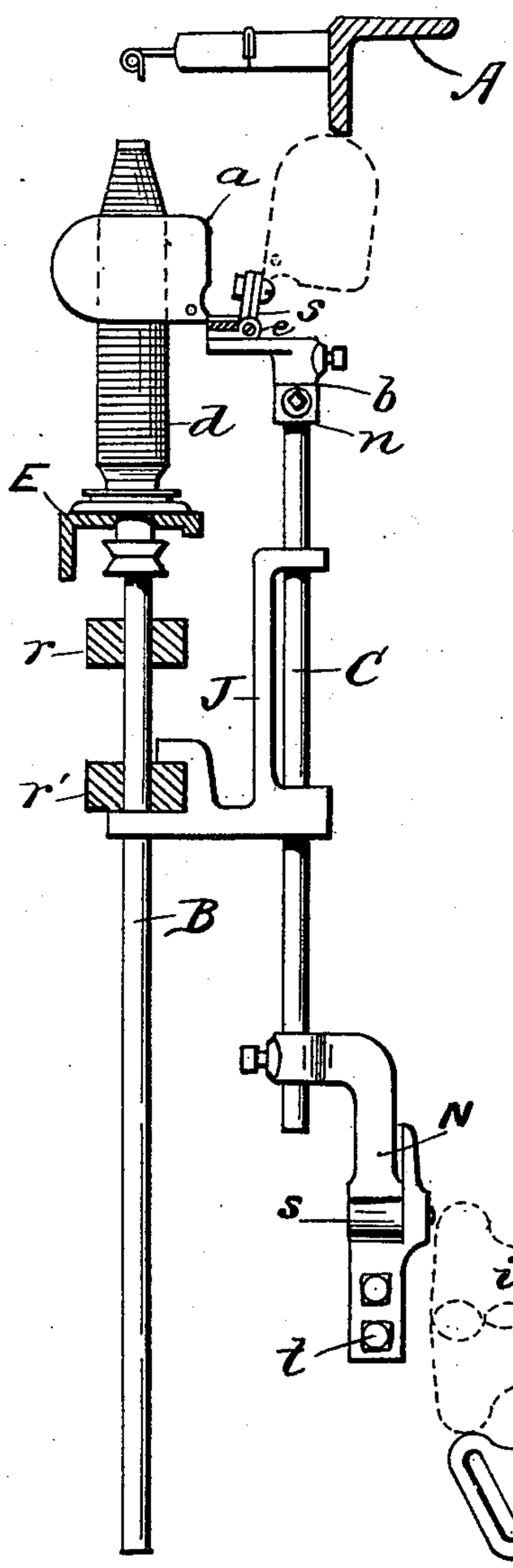

Fig. 2.

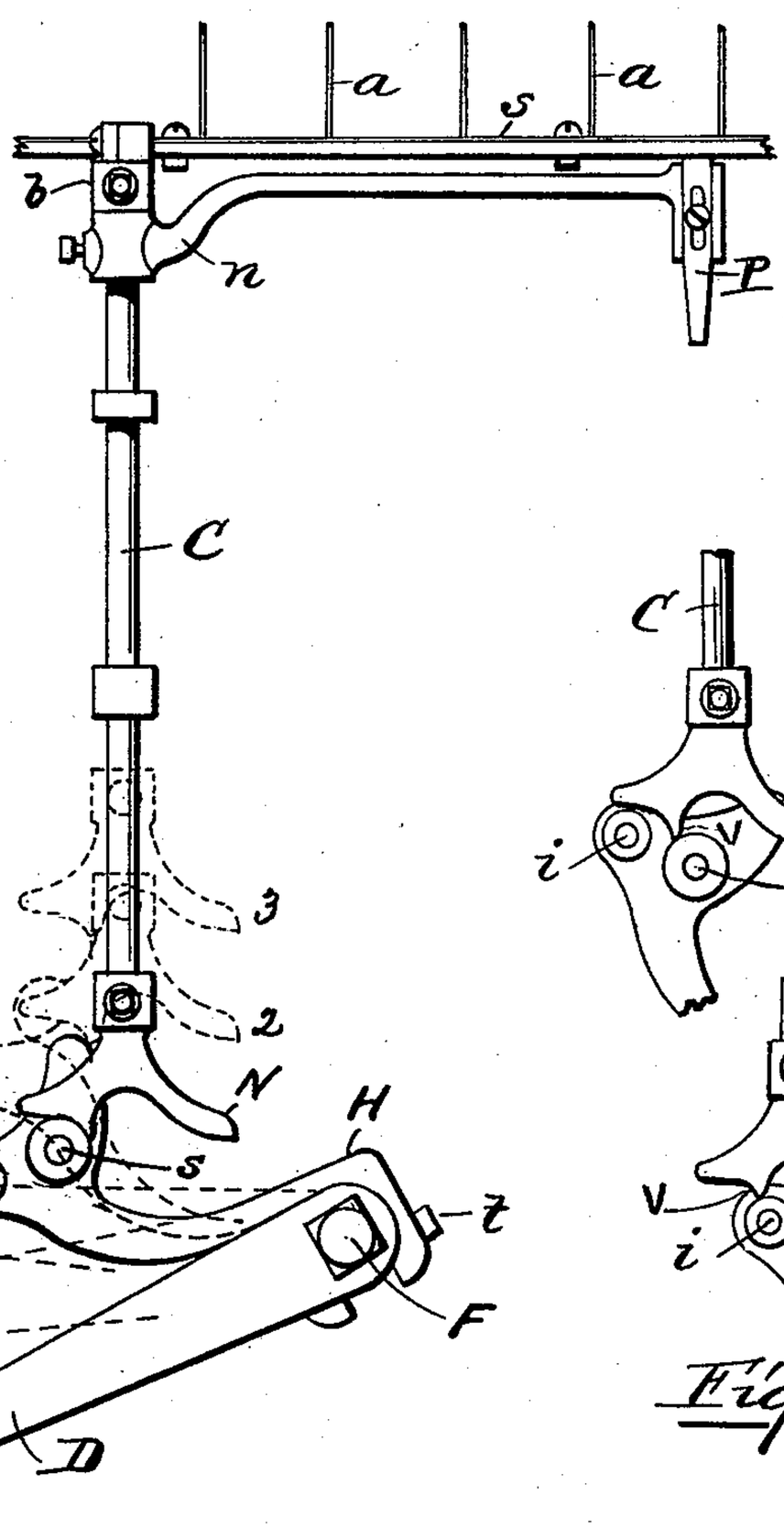

Fig. 3.

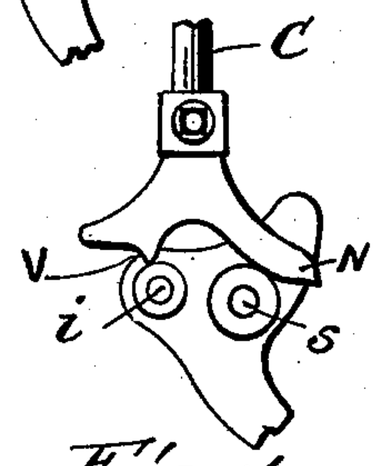

Fig. 4.

Witnesses.

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SEPARATOR FOR SPINNING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 539,148, dated May 14, 1895.

Application filed March 15, 1895. Serial No. 541,937. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. SHARPLES, of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Separators for Spinning Machinery; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the separators used on spinning machines, embracing the mode of holding and adjusting and also of raising and lowering them. It is fully explained and illustrated in this specification and the accompanying drawings.

Figure 1 represents a side elevation of the spindle of a ring-spinning frame and one of the separators, with the mechanism for raising and lowering it. Fig. 2 is a back elevation of some of the separators, a portion of the bar that holds them, with the raising-rod and devices for leveling the separator-bar. Figs. 3 and 4 show different positions of raising mechanism.

The object of this invention is to construct the parts that are immediately connected with raising the separators that their motions up and down shall be more in accordance with the requirements of that part of the spinning machine; and also to furnish means to facilitate the leveling of the separator bar in its different parts.

In Fig. 1, A denotes the roller beam; E, the ring rail; *r*, the upper spindle rail; *r'*, the lower spindle rail.

B is the spindle; *a*, the separators, and S the bar that holds them.

C is the rod that supports the separators and J is a bracket attached to the lower spindle rail in which the rod C, slides.

N is a forked arm fast on the lower end of the rod C, to receive the motion that raises the separators. See Fig. 2.

n is a supporting arm attached to the rod C, and P is an adjusting plate held in the end of the arm P.

D is the arm that raises the ring rail E, but the construction of the connections between the two are well known and have been omitted for the sake of clearness in this specification.

The bar *s*, to which the separator blades *a*, are secured by a horizontal flange on their lower back corners, is held in a bearing *c*, fast on an arm *b*, attached to the top of the vertical rod C. The rod C, is held free to move up and down in a bracket J, attached to the lower spindle rail *r'*. A forked arm N, is secured to the lower end of the rod C, by a set screw in its hub to allow of its being set up or down to adjust the height of the separators. The two forks of the arm N, are shown in Figs. 2, 3 and 4 in different positions in rising with regard to the arm H, that raises the arm N. This arm H, is made fast on the cross shaft F, that carries the arm D and raises the ring rail, by a bolt *t*, that clamps the hub to the shaft. The outer end of the arm H, is made wide and has two friction rolls, *s*, *i*, pivoted on one side. In the position shown in full lines in Fig. 2, the friction rolls *s*, are in contact with one branch of the arm N, and the arm H, is raising the rod C, by that roll. In the position shown by dotted lines 2, in Fig. 2, and in full lines in Fig. 3, the rod C, has been carried up part way and gradually stopped as the roll *s*, goes around the point *v*, of the arm, which gives the separator a dwell or rest to allow the ring rail to catch up with them or nearly so. Then the second roll *i*, reaches the same branch of the arm and begins to raise the rod C, still higher to the position shown in dotted lines 3, in Fig. 2, and in full lines in Fig. 4, the roll *s*, assisting, on the other branches of the arm, in the latter part of the motion. This gives the separators an intermittent motion best calculated to keep them in the proper position with regard to the bobbin *d*, on the spindle, and makes it possible to use a narrower and lighter separator with the full effect of a wider one and avoid the extra weight.

The dotted lines in Fig. 1, show the position of the separator blades when turned up to drop the bobbin *d*. The separator bar *s*, is made slender to avoid extra weight and is therefore liable to sag between the rods C, because of the weight of the separator blades on it. To prevent this sagging and keep the bar level I put a light stiff arm *n*, on the rod

C, and make it fast with a set screw. At the outer end of this arm I attach a vertical adjusting plate P, by means of a screw passing through a slot in the plate and screwing into the arm. By loosening this screw and pushing the plate P, up under the bar *s*, the sag in the bar can be taken up and the bar made level.

Having thus described my improvements, I claim as my invention and desire to secure by Letters Patent—

1. In mechanism for operating separators in spinning machines, a set of separator blades, a bar to hold them, a rod to raise and lower said bars and blades, an arm held on said rod near its lower end having two branches with under surfaces with different inclines and a vacant space between them, in combination with an arm held on the same shaft that raises the ring rail, said arm having one or more friction rolls to operate on said inclined surfaces, and raise the separators with an intermittent motion, substantially as described.

2. In a separator for spinning machines, a set of separator blades, a bar to hold them, a rod to raise and lower the bar and separator blades, an arm attached to said rod near its upper end, an adjusting plate secured to said arm near its outer end to take up the sag of the separator bar and keep it level, substantially as described.

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